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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,946	01/26/2004	Adam Michael Espeseth	HSJ920030237US1	9298

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EXAMINER

DOAN, DUC T

ART UNIT

PAPER NUMBER

2188

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/764,946

Applicant(s)

ESPESETH ET AL.

Examiner

Duc T. Doan

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/23/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 1-18 are in the application.

Claims 1-18 are rejected.

Specifications

The disclosure is objected to because of the following informalities:

Specification page 8 recites “..can be obtained from a DEAT lookup table as disclosed in US patent application no. 09/638,253..”

First, the recited pending application 09/638,253 is now the US Patent 6725327.

Second, Examiner cannot find anywhere in the above 09/638,253 for a description of DEAT. Examiner requests Applicant further describing the detail of the DEAT.

Appropriate correction is required.

Claim Objections

Claims 7,10 are objected to because of the following informalities

As in claim 7, the claim recites, “receiving a user selection of throughput optimization or operations per second optimization”.

The recitation of “second optimization” lacks antecedent basis.

It’s unclear from the claim that whether the claim intent to describe two optimization schemes. Since the claim can be read as “user selection of throughput optimization or operations”, thus user can pick either a throughput optimization or operations.

Appropriate correction is required.

U.S.C. 112, first paragraph

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

As for claim 7, in lines 4-11, the claim recites “determining .. next command to execute ... by determining a pipe length..”. It’s unclear on how the next command being determined from the determination of a pipe length...Specifically, Examiner is looking for a step to further describe the relationships and tying these two determinations.

Claim 10 rejected based on the same rationale as in the above rejection.

Claim Rejection 35 USC 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7,10 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 7 does not describe a practical application that produces a tangible, concrete result. The claim lacks a tangible result in that the claim recites “the determination of the next command ... by determining ...” only describing how the next command is being determined. Examiner notes that an amendment to the claim describing a step of obtaining the next command in the queue would overcome the non-statutory subject matter. For example “in response to said determination of the next command, the next command in the queue is accessed for execution”.

Claim 10 rejected base on the same rationale as in the rejection of claim 7.

All dependent claims are rejected as having the same deficiencies as the claims they depend from.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by other's in this country or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claim 1,10 is rejected under 35 U.S.C. 102 (e) as being anticipated by Clegg et al (US 6721845).

As in claim 1, Clegg describes a hard disk drive (HDD) comprising: at least one rotatable disk (disk); at least one data transfer element (read/write head); and at least one HDD controller controlling the data transfer element to execute commands in a queue (Fig 1A), at least one command being selected for execution based on at least one of: an optimized throughput benefit (Cleegy's column 2 lines 25-30, advantageously write sequentially, lines 45-55 read sequentially), and an optimized operation rate benefit (Clegg 's column 2 line 67 to column 3 line 4, random reads).

Claim 10 rejected based on the same rationale as in the rejection of claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2,4-5,11,14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Clegg et al (US 6721845).

As in claim 2, the claim recites wherein the throughput benefit is determined based at least in part on a pipe length. Clegg 's column 2 lines 25-30 clearly describe the advantage of writing sequential data records so that they fill the current cylinder before moving to the next cylinder.

As in claim 4, the claim recites wherein a pipe length is a length of the sequential pipe of commands in at least one of: servo identifications (SIDs), and number of blocks in a pipe. Clegg 's column 4 lines 55-67 describes a mechanism of checking the size of the next request and determine if the request is sequentially follow the last based on a range of sectors; column 5 lines 9-25 further describes using the size of data blocks of recent reads in the calculation.

As in claim 5, the claim recites wherein the operation rate benefit is determined based at least in part on a number of commands in a pipe. Clegg 's column 4 line 55 to column 5 line 23 describes using a count of commands being received from host to determine the commands being operated in sequential mode or not.

As in claim 11 the claim recites wherein the means for determining a throughput benefit uses a pipe length in a numerator and a denominator of a quotient. The claim rejected based on the same rationale as in the rejection of claim 5. Clegg 's column 4 line 55 to column 5 line 23 describes comparing the data blocks of command being received with a threshold value which is also based on data blocks of previously commands.

Claim 15 rejected based on the same rationale as in the rejection of claim 11.

Allowable Subject Matter

Claims 3,6,8-9,12-13,16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Espeseth et al US 6725327.

Espeseth et al US 2003/0182499.

- Hall US 6925526.

Megiddo US 6574676.

Megiddo 6658535.

Haines US 2002/0108016.

Anderson et al US 6578107.

Heath et al US 5570332.


When responding to the office action, Applicant is advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171. The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DD


Mano Padmanabhan 3/20/06

Supervisory Patent Examiner

TC2188

**MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER**